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10/767,429	01/30/2004	Kevin Michael Goodwin	200208947-1	6455

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EXAMINER	
WANG, VICTOR W	

ART UNIT	PAPER NUMBER
2189	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,429	GOODWIN, KEVIN MICHAEL	
	Examiner	Art Unit	
	Victor W. Wang	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The instant application having Application No. 10/767429 has a total of 16 claims pending in the application; there are 3 independent claim and 13 dependent claims, all of which are ready for examination by the examiner.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2. The application's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63.**

II. INFORMATION CONCERNING DRAWINGS

Drawings

3. The drawings received 30 January 2002 is in compliance with the provisions of 37 CFR 1.84(p)(5). Accordingly, the drawings are being considered by the examiner.

III. OBJECTIONS TO THE SPECIFICATION

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

5. Applicant has claimed "a machine-readable medium" in claim 13. The specification does not disclose any machine-readable medium, therefore the specification is objected to.

IV. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-16** are rejected under 35 U.S.C. 102(b) as being anticipated by Shaath (US 2002/0078295).

As per claim 1, Shaath discloses "A method of forestalling actions that would defeat an access-control mechanism for a volume at least a portion of which is on a storage-device, communication between an input/output (I/O) initiator and the storage-device taking place via a stack of device objects (DOs) representing the volume, the method comprising: selectively preventing, at the stack-level, a change in characteristic information for the volume." **[With respect to this limitation, Shaath discloses "Disposed between the application layer and the file system layer is a trap layer also referred to as a filter layer. Each file system access request that is transmitted from the application layer to the file system layer is intercepted by the trap layer. In the trap layer restrictions relating to access privileges are implemented. For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 9-21), where it is understood that the**

stack level is associated with device objects representing different volumes, which is similar to a trap or filter layer which is associated with device drivers operating with storage mediums. "For example, a storage medium may indicate read-write access but may not support delete operations. Device drivers perform low level commands such as read and write. Delete, is a write operation, the device driver performing write operations to obfuscate of overwrite a file. As is evident, the device driver supports delete operations as does any read/write data store. However, by indicating to the trap layer that delete operations are not supported, all delete requests passed from the application layer for the specific data store are intercepted by the trap layer and an error message is returned to the application layer." (paragraph 0068, lines 3-14)]

As per claim 2, Shaath discloses "receiving an input/output request packet (IRP) that is traversing a stack of device objects, the stack representing a data-storage device;" **[With respect to this limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory, and if not sets up the next lower driver's IO stack location in the IRP" (paragraph 0044, lines 6-9) where file system driver receives IRP from IO manager]**

"determining whether the IRP represents a request to change characteristic information for the storage-volume to which the stack corresponds;" **[With respect to this limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out" (paragraph 0004, lines 5-6)]**

"and selectively failing the IRP depending upon the type of change being requested." **[With respect to this limitation, Shaath discloses "For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 15-21)]**

As per claim 3, Shaath discloses "The method of claim 2, the method further comprising: checking whether the IRP is of a type meriting scrutiny;" **[With respect to this limitation, Shaath discloses "If there were no higher-level driver, such a device driver would check whether the input parameters for an IRP MJ XXX operation are valid. If they are, a device driver usually calls IO support routines to tell the IO Manager that a device operation is pending on the IRP and to either queue or pass the IRP on to another driver-supplied routine that accesses the target device in the form of a physical or logical device such as a disk or a partition on a disk." (paragraph 0052)]**
"and skipping the determining and selectively-failing steps if the IRP does not merit scrutiny." **[With respect to this limitation, Shaath discloses "when the storage medium supports the operation, the request and the data is passed on to the file system layer." (paragraph 0074, lines 11-13)]**

As per claim 4, Shaath discloses "The method of claim 3, wherein: the checking step inspects whether the IRP includes the major function code IRP_MJ_CREATE;" **[With respect**

to this limitation, Shaath discloses "The set of IRP major and minor function codes that a particular NT driver handles are sometimes device-type-specific. However, NT device and intermediate drivers usually handle the following set of basic requests: IRP MJ CREATE--open the target device object, indicating that it is present and available for IO operations;" (paragraph 0059-0060)]

and the skipping step skips if the IRP does not include IRP_MJ_CREATE." **[With respect to this limitation, Shaath discloses "The set of IRP major and minor function codes that a particular NT driver handles are sometimes device-type-specific. However, NT device and intermediate drivers usually handle the following set of basic requests: IRP MJ CREATE--open the target device object, indicating that it is present and available for IO operations;" (paragraph 0059-0060) where it is understood that NT device supports IRP_MJ_CREATE request]**

As per claim 5, Shaath discloses "The method of claim 2, wherein the IRP is received at a location in the stack represented by a device object;" **[With respect to this limitation, the physical device driver checks its IO stack location to determine what operation... it should carry out on the target device, which is represented by the device object in its IO stack location and passed with the IRP to the driver" (paragraph 0051, lines 1-6)]**

"the characteristic information includes a volume-ID of the volume to which the device object corresponds;" **[With respect to this limitation, Shaath discloses "the subsystem calls for an NT IO system service to open a name file" (paragraph 0042, lines 3-4), where it is understood that the name is an ID of the file];**

"and the determining step determines whether the IRP represents a request to change the volume-ID." **[With respect to this limitation, Shaath discloses "determine what operation (indicated by the IRP MJ XXX function code) it should carry out on the target device" (paragraph 0051, lines 2-4)]**

As per claim 6, Shaath discloses "The method of claim 5, wherein the volume-ID is the volume label." **[With respect to this limitation, Shaath discloses "a named file" (paragraph 0042, lines 3-4)]**

As per claim 7, Shaath discloses "The method of claim 2, further comprising: checking whether an identifier (ID) of the volume (volume-ID) in the IRP matches the volume-ID stored as corresponding to the volume;" **[With respect to this limitation, Shaath discloses "The file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory" (paragraph 0044, lines 5-8)]**
"and choosing to fail the IRP if the volume-ID in the IRP does not match the stored volume-ID." **[With respect to this limitation, Shaath discloses "some requests are blocked and error messages are returned to the application layer" (paragraph 0066, lines 15-16), where it is understood that if requests do not have a matching file name, it will fail to access any files]**

As per claim 8, Shaath discloses "The method of claim 7, further comprising: checking, if the volume-ID in the IRP does not match the stored volume-ID, whether the underlying initiator

to which the IRP corresponds has permission to change the volume-ID;" **[With respect to this limitation, Shaath discloses "As is evident, the device driver supports delete operations as does any read/write data store. However, by indicating to the trap layer that delete operations are not supported, all delete requests passed from the application layer for the specific data store are intercepted by the trap layer and an error message is returned to the application layer." (paragraph 0068, lines 8-14)]**

"and failing the IRP if the initiator does not have permission to change the volume-ID." **[With respect to this limitation, Shaath discloses "intercepted by the trap layer and an error message is returned to the application layer." (paragraph 0068, lines 13-14)**

As per claim 9, Shaath discloses "The method of claim 8, wherein the checking step checks one or more bits in an unreserved area of the IRP for a bit-pattern the presence of which indicates that the initiator has permission to change the volume-ID." **[With respect to this limitation, Shaath discloses "the physical device driver checks its IO stack location to determine what operation (indicated by the IRP MJ XXX function code) it should carry out on the target device, which is represented by the device object in its IO stack location and passed with the IRP to the driver. This driver can assume that the IO Manager has routed the IRP to an entry point that the driver defined for the IRP--MJ XXX operation (here IRP MJ READ or IRP MJ WRITE) and that the higher-level driver has checked the validity of other parameters for the request." (paragraph 0051) where it is understood that different bits sequences indicate different IRP function codes.]**

As per claim 10, Shaath discloses "The method of claim 7, further comprising: checking, if the volume-ID in the IRP does not match the stored volume-ID, whether the volume-ID in the IRP is available for use;" **[With respect to this limitation, Shaath discloses "The IO Manager determines whether the device driver is already busy processing another IRP for the target device" (paragraph 0053, lines 1-3)]**
"and failing the IRP if the volume-ID in the IRP is not available for use." **[With respect to this limitation, Shaath discloses "some requests are blocked and error messages are returned to the application layer" (paragraph 0066, lines 15-16)]**

As per claim 11, Shaath discloses "The method of claim 10, further comprising: comparing the volume-ID in the IRP to a list of existing volume-IDs." **[With respect to this limitation, Shaath discloses "The file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory" (paragraph 0044, lines 5-8)]**

As per claim 12, Shaath discloses "The method of claim 11, the method further comprising: updating, if the volume-ID in the IRP is found to be available for use, the list to include the volume-ID in the IRP." **[With respect to this limitation, Shaath discloses "The file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory" (paragraph 0044, lines 5-8)]**

As per claim 13, Shaath discloses "A machine-readable medium including instructions execution of which by a machine forestalls actions that would defeat an access-control mechanism for a volume of a storage-device, the machine-readable instructions comprising: a code segment that creates and attaches a filter device object to a stack of device objects representing a storage-device;" **[With respect to this limitation, Shaath discloses "Disposed between the application layer and the file system layer is a trap layer also referred to as a filter layer. Each file system access request that is transmitted from the application layer to the file system layer is intercepted by the trap layer. In the trap layer restrictions relating to access privileges are implemented. For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 9-21)]**
"a code segment for selectively preventing, at the stack-level, a change in characteristic information for the volume." **[With respect to this limitation, Shaath discloses "Disposed between the application layer and the file system layer is a trap layer also referred to as a filter layer. Each file system access request that is transmitted from the application layer to the file system layer is intercepted by the trap layer. In the trap layer restrictions relating to access privileges are implemented. For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to**

delete a file is blocked and an error message is returned." (paragraph 0066, lines 9-21) where it is understood that the stack level is associated with device objects representing different volumes, which is similar to a trap or filter layer which is associated with device drivers operating with storage mediums. "For example, a storage medium may indicate read-write access but may not support delete operations. Device drivers perform low level commands such as read and write. Delete, is a write operation, the device driver performing write operations to obfuscate of overwrite a file. As is evident, the device driver supports delete operations as does any read/write data store. However, by indicating to the trap layer that delete operations are not supported, all delete requests passed from the application layer for the specific data store are intercepted by the trap layer and an error message is returned to the application layer." (paragraph 0068, lines 3-14)]

As per claim 14, Shaath discloses "a code segment for receiving an input/output request packet (IRP) that is traversing a stack of device objects, the stack representing a data-storage device;" **[With respect to this limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory, and if not sets up the next lower driver's IO stack location in the IRP" (paragraph 0044, lines 6-9) where file system driver receives IRP from IO manager]**

"a code segment for determining whether the IRP represents a request to change characteristic information for the storage-volume to which the stack corresponds;" **[With respect to this**

limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out" (paragraph 0004, lines 5-6)]

"a code segment for selectively failing the IRP depending upon the type of change being requested." **[With respect to this limitation, Shaath discloses "For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 15-21)]**

As for claim 15, Shaath discloses "An apparatus for forestalling actions that would defeat an access-control mechanism for a volume at least a portion of which is on a storage-device, communication between an input/output (I/O) initiator and the storage-device taking place via a stack of device objects (DOs) representing the volume, the apparatus comprising: a memory in which is created the stack of device objects representing a storage-device, the stack including a filter device object (DO);" **[With respect to this limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out, checks parameters, determines if the requested file is in cache memory, and if not sets up the next lower driver's IO stack location in the IRP" (paragraph 0044, lines 6-9) where file system driver receives IRP from IO manager]**

"and filter driver means for selectively preventing, at the stack-level, a change in characteristic information for the volume." **[With respect to this limitation, Shaath discloses "Disposed**

between the application layer and the file system layer is a trap layer also referred to as a filter layer. Each file system access request that is transmitted from the application layer to the file system layer is intercepted by the trap layer. In the trap layer restrictions relating to access privileges are implemented. For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 9-21) where it is understood that the stack level is associated with device objects representing different volumes, which is similar to a trap or filter layer which is associated with device drivers operating with storage mediums. "For example, a storage medium may indicate read-write access but may not support delete operations. Device drivers perform low level commands such as read and write. Delete, is a write operation, the device driver performing write operations to obfuscate of overwrite a file. As is evident, the device driver supports delete operations as does any read/write data store. However, by indicating to the trap layer that delete operations are not supported, all delete requests passed from the application layer for the specific data store are intercepted by the trap layer and an error message is returned to the application layer." (paragraph 0068, lines 3-14)]

As per claim 16, Shaath discloses "The apparatus of claim 15, wherein the filter driver means is further operable for determining whether an input/output request packet (IRP) arriving at the filter DO represents a request to change characteristic information for the storage-volume

to which the stack corresponds, and selectively failing the IRP depending upon the type of change being requested." **[With respect to this limitation, Shaath discloses "the file system driver accesses its IO stack location in the IRP to determine what operation to carry out" (paragraph 0004, lines 5-6), "For example, some requests are blocked and error messages are returned to the application layer. Other requests are modified and the modified request passed onto the file system. When a data store is read only, a request to open a file for read write access is modified to an open file for read-only access; a request to delete a file is blocked and an error message is returned." (paragraph 0066, lines 15-21)]**

V. RELEVANT ART CITED BY THE EXAMINER

8. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**

The following reference teaches data transfer control methods.

U.S. PATENT NUMBER

US 6389427

Conclusion

9. When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor W. Wang whose telephone number is (571) 272-9771. The examiner can normally be reached on Monday through Friday, 8:30am - 6:00pm. E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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13 June 2007